

Docket No.: GAS-005

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Application of

Inventor(s): Bjorn GRASSL et al.

U.S. Patent Application No. 10/528,446 ✓

Filed: March 18, 2005

For: DEVICE AND METHOD FOR CHECKING THE AUTHENTICITY OF A FORGERY-  
PROOF MARKING

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:  
: Confirmation No.  
:  
: Group Art Unit:  
:  
: Examiner:

**SUBMISSION OF PCT FORM**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Submitted herewith is a PCT form of PCT/IPEA/409 translation of International  
Preliminary Report on Patent Ability.

Respectfully submitted,

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Translation

PATENT COOPERATION TREATY

PCT/EP2003/010964



PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 432997GA	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/EP2003/010964	International filing date (day/month/year) 02 October 2003 (02.10.2003)	Priority date (day/month/year) 05 October 2002 (05.10.2002)
International Patent Classification (IPC) or national classification and IPC G07D 7/12		
Applicant NOVEMBER AKTIENGESELLSCHAFT		

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <u>7</u> sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>	
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>	

Date of submission of the demand 20 March 2004 (20.03.2004)	Date of completion of this report 11 November 2004 (11.11.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2003/010964

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_, which is language of a translation furnished for the purpose of:
- ☐ international search (under Rules 12.3 and 23.1(b))
- ☐ publication of the international application (under Rule 12.4)
- ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☐ The international application as originally filed/furnished
- ☒ the description:
- pages \_\_\_\_\_ 1-19 \_\_\_\_\_, as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the claims:
- pages \_\_\_\_\_, as originally filed/furnished
- pages\* \_\_\_\_\_, as amended (together with any statement) under Article 19
- pages\* \_\_\_\_\_ 1-34 \_\_\_\_\_ received by this Authority on 23 October 2004 (23.10.2004)
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the drawings:
- pages \_\_\_\_\_, as originally filed/furnished
- pages\* \_\_\_\_\_ 1/5-5/5 \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

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**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. Statement**

Novelty (N)	Claims	1-34	YES
	Claims		NO
Inventive step (IS)	Claims	1-34	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-34	YES
	Claims		NO

**2. Citations and explanations**

1. The present application relates to the measurement of a marking on an object where light of different wavelengths is directed onto the object at specific (different) angles. Measurements are taken at different angles and wavelengths, thus avoiding elaborate spectrometric analysis.

Reference is made to the following documents:

D1: WO0231780; D2: WO0153113; D4: EP0341002.

2. PRIOR ART

D1 (especially fig. 15) discloses a method and apparatus for examining optically variable materials (OVMS) on a substrate 170, where three LEDs (red 142, green 144, blue 146) are arranged in a casing 140. The light reflected by the substrate is measured at a plurality of different angles by photodiodes 172, 174 and 176 via a viewing window. According to D1, the surface is illuminated at a single specified angle (determined by the material to be examined) (preferably 45°) by a combined beam of the LEDs. This method achieves adequate measuring

accuracy using a single angle of illumination.

3. NOVELTY

In view of the above interpretation of the claims, independent claims 1 and 14 satisfy the requirement for novelty (PCT Article 33(2)) by virtue of the following feature:

(a) the light sources are subdivided into two groups, the light sources of the first group and of the second group illuminating the surface of the marking at different angles  $\alpha_1$  and  $\beta_1$  respectively, and there being present in the relevant groups at least two light sources which differ from each other in the wavelength of their emission maximum.

4. INVENTIVE STEP

Regarding (a):

Proceeding from D1 as closest prior art, the problem addressed by feature (a) is that of achieving a (more) precise determination of the angle-dependent colour of the marking than is possible with the D1 method and apparatus.

A person skilled in the art concerned with this problem would, in the light of D1, D2 (fig. 17A, 17B) and D4 (fig. 1), consider the following possible solutions in turn:

- (i) measurement at additional detector angles;
- (ii) illumination with additional sources at

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different wavelengths (at the same first angle);

(iii) possibly illumination at additional angles of incidence.

Even if a person skilled in the art incorporates the teaching of D2 and D4, he does not therefore proceed beyond option (iii). Nor is there anything to suggest to him the use of a plurality of groups of light sources at different angles of incidence and with different emission maximum wavelengths as defined in feature (a) above.

Independent claims 1 and 14 (and dependent claims 2 to 13 and 15 to 34 respectively) therefore satisfy the requirement for inventive step (PCT Article 33(3)).